AMENDMENT TO THE CLAIMS

1-19. (Canceled)

20. (Currently Amended) A computer-implemented method of data analysis to identify a target for use in treating a selected biological condition disease, comprising:

defining disease characteristics of the selected biological condition disease, including medical tests associated with the selected biological condition disease;

performing a computer analysis of medical test results based on medical tests performed on biological samples from a plurality of subjects with respect to the defined characteristics of the selected biological condition disease;

based on the analysis, determining an affected status of each of the plurality of subjects;

defining risk characteristics of the selected biological condition disease;

based on the risk characteristics, determining a risk status of each of the plurality of subjects;

based on the affected status and the risk status, classifying each of the plurality of subjects into a predetermined category for the selected biological condition disease selected from a group comprising at risk, affected (ARA), whose members have ever been affected by the selected biological condition disease, and at risk, unaffected (ARU), whose members remain unaffected by the selected biological condition disease and whose unaffected status is inconsistent with the risk status;

performing genetic tests on the plurality of subjects in a panel of candidate genes suspected to be relevant to the disease;

identifying functional variants in at least one of the candidate genes in the plurality of subjects;

analyzing the genetic test results of the group of subjects classified as ARU with the genetic test results of the group of subjects classified as ARA to identify one or more statistically significant functional variants where the allele frequency is statistically larger in determine genetic differences between genetic test results of the

group of subjects classified as ARU ~~with the genetic test results of~~ as compared to the allele frequency in the group of subjects classified as ARA;~~and~~

thereby identifying each candidate gene containing one of the said statistically significant functional variants as ~~one or more~~ a drug targets for use in treating the ~~selected biological condition~~ disease;~~.~~

and displaying each of the identified target candidate genes to a user.

21.   (Currently Amended) The method of claim 20 wherein the defined disease characteristics of the ~~selected biological condition~~ disease have associated numerical scores and determining the affected status of each of the plurality of subjects comprises determining numerical scores based on the analysis of the medical test results.

22.   (Currently Amended) The method of claim 20 wherein the defined risk characteristics of the ~~selected biological condition~~ disease have associated numerical scores and determining the risk status of each of the plurality of subjects comprises determining numerical scores.

23.   (Currently Amended) The method of claim 20 wherein the defined disease characteristics of the ~~selected biological condition~~ disease have associated numerical scores and the defined risk characteristics of the selected biological condition have associated numerical scores, the classification of each of the plurality of subjects into a predetermined category being based on the numerical scores for affected status and risk status.

24.   (Original) The method of claim 23 wherein the numerical scores for affected status and risk status are combined to form a combined numerical score, the classification of each of the plurality of subjects into a predetermined category being based on the combined numerical scores for affected status and risk status.

25.   (Currently Amended) The method of claim 20 wherein the medical tests associated with the ~~selected biological condition~~ disease have varying degrees of relevance in defining the disease characteristics, the method further comprising assigning relevance weighting factors to the medical tests based on the degree of relevance, the affected status being based on the weighted medical tests.

26.   (Original) The method of claim 20, further comprising generating statistical data related to the affected status and risk status wherein classifying each of the plurality of subjects into a predetermined category comprises analyzing the statistical data.

27.   (Canceled)

28.   (Previously Presented) The method of claim 20 wherein risk status is determined at least in part from medical histories of the plurality of subjects, the method further comprising comparing the medical histories and the medical test results of the group of subjects classified as *ARU* with the medical histories and the medical test results of the group of subjects classified as *ARA*.

29-61. (Canceled)